

In the Claims:

1. Measurement probe, in particular for an apparatus for measurement of the thickness of thin layers, having a housing which has at least one printed circuit board and at least one sensor element which is associated with the printed circuit board, and having a contact cup which is arranged at the lower end of the housing, characterized in that at least one flexible strip, which has at least one connecting line, is provided on the at least one printed circuit board.
2. Measurement probe according to claim 1, characterized in that the flexible strip has a connecting lug at a free end of the flexible strip.
3. Measurement probe according to claim 1, characterized in that the at least one printed circuit board comprises a fixed layer and a flexible layer, and the flexible layer is provided such that it is separated in places from the fixed layer, and is in the form of a flexible strip.
4. Measurement probe according to claim 2, characterized in that the flexible strip is passed out of the housing.
5. Measurement probe according to claim 1, characterized in that the at least one printed circuit board and the at least one sensor element are arranged such that they are fixed with respect to one another.
6. Measurement probe according to claim 1, characterized in that the first printed circuit board has at least one further associated printed circuit board, which holds the at least one sensor element.
7. Measurement probe according to claim 1, characterized in that the first and at least one further printed circuit board are connected firmly to one another and have contact-making

- points, which are connected to one another, in the mutually adjacent areas.
8. Measurement probe according to claim 1, characterized in that the printed circuit board and at least one further printed circuit board are connected by means of at least one flexible strip, which has at least one connecting line.
 9. Measurement probe according to claim 1, characterized in that the first and at least one further printed circuit board are integral.
 10. Measurement probe according to claim 1, characterized in that the at least one further printed circuit board holds a sensor element, which is arranged by means of contact-making points, as a Hall-sensor, and is arranged opposite a field concentrator, which is held by the printed circuit board, and magnets.
 11. Measurement probe according to claim 10, characterized in that the sensor element which is in the form of a Hall sensor has connecting lines which are passed through the printed circuit board and made contact with via connecting points on the first printed circuit board.
 12. Measurement probe according to claim 1, characterized in that the at least one further printed circuit board has a second sensor element, which is arranged concentrically with respect to the first sensor element and is in the form of a coil whose connecting lines are provided on the first printed circuit board.
 13. Measurement probe according to claim 7, characterized in that contact-making points are provided as solder points in the area of the first and further printed circuit board.
 14. Measurement probe according to claim 1, characterized in that a holding section is fitted to the first printed circuit board and holds the sensor elements, and the holding section is formed detachably, non detachably, attached to or integrally with the first printed circuit

board.

15. Measurement probe according to claim 14, characterized in that the at least one sensor element has a primary winding and a secondary winding for a magnetic induction measurement, at least one coil for an eddy current measurement method, or a combination.
16. Measurement probe according to claim 1, characterized in that the first printed circuit board has at least one oscillator.
17. Measurement probe according to claim 1, characterized in that the first printed circuit board and the at least one sensor element are firmly encapsulated in the housing by means of an electrically nonconductive compound.
18. Measurement probe according to claim 1, characterized in that a metallic cover is provided on the housing and has an opening which is preferably in the form of a slot and is intended for holding the first printed circuit board.
19. Measurement probe according to claim 1, characterized in that the housing has a projection or a depression, as a rotation prevention means, on one outer face.
20. Measurement probe according to claim 1, characterized in that an axial guide is provided on one outer face of the housing and has at least three projections which extend along the housing wall.
21. Measurement probe according to claim 1, characterized in that the housing is inserted into an apparatus for measurement of the thickness of thin layers, and the flexible strip which has at least one connecting line is connected by means of a plug connection to a data processing system or to a signal line.